



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,080	12/05/2000	Kazutaka Saitoh	IIZ.018	3263

7590 08/29/2002

JONES VOLENTINE, L.L.P.
Suite 150
12200 Sunrise Vally Drive
Reston, VA 20191

EXAMINER

THOMPSON, ANNETTE M

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,080

Applicant(s)

SAITOH, KAZUTAKA

Examiner

A. M. Thompson

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This application, 09/729,080, has been examined. Claims 1-20 are pending.

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use

Art Unit: 2825

thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

3. The abstract of the disclosure is objected to because it is merely a recitation of claim 1 with "includes" substituted for "comprising" and "so as" substituted for "wherein". Furthermore, the abstract merely recites structural limitations without generally stating the novelty of the invention. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: At line 1, in the section entitled Technical Field, delete the article "a". In general, the specification contains numerous grammatical informalities, e.g. at page 6, line 15, "across" should be changed to *cross*, and "many" should be changed to *much*. Applicant is encouraged to pursue a detailed review of the disclosure for correction of similar informalities. Appropriate correction is required.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Applicant's invention is directed to a memory design, specifically that of a ROM, which decreases or eliminates cross-talk occurrence.

Claim Objections

6. **Claims 3, 7, 8, 10, 14, and 17** are objected to because of the following informalities: Pursuant to **claims 3, 7, 10, 14, 17** delete the phrase "as many as possible" as it is grammatically challenged (i.e. phrase should read *to pass across as many bit lines as possible*) and additionally poses 35 U.S.C. 112, second paragraph issues of definiteness. Pursuant to **claim 7**, at line 7, use the gerund form of "extend".

Pursuant to **claim 8**, at line 5, use the gerund form of the word "enables". Pursuant to **claim 14**, at line 10, use the gerund form of "extend". Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 3, 7, 8-14 and 17** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Pursuant to **claims 8 and 14**, there is insufficient antecedent basis for recitation of "the component" at line 4. It is unclear whether "component" references the smart card or the CPU. Pursuant to **claims 9-13**, these claims depend from a rejected base claim and are likewise rejected. Pursuant to **claims 3, 7, 10, 14, and 17**, the phrase "as many as possible" renders the claim indefinite because the scope of the claim is indeterminable. The quantity "as many as possible" cannot be determined. Additionally, the specification does not disclose what factor determines the quantity "as many as possible".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejection of Claim 1

10. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al., (Mueller) U.S. Patent 5,864,496. Mueller discloses a high density semiconductor memory having diagonal bit lines and dual word bit lines. Mueller focuses on memory structure instead of a semiconductor circuit into which a memory would be placed. Additionally, Mueller uses the exemplary embodiment of a DRAM chip instead of a ROM. Nevertheless, Mueller at column 4, lines 5-10, expands the invention applications to other memory structures, including a ROM. Additionally, at column 4, lines 10-13, Mueller teaches the use of the memory in "other electronic structures", a term sufficiently broad enough to encompass Applicant's claimed smart card or semiconductor integrated circuit. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention that Mueller at least suggests Applicant's invention for the reasons outlined in the rejection, infra, and additionally because Mueller's invention includes ROM chips and other memory structures.

11. Pursuant to **claim 1**, which recites, a semiconductor integrated circuit comprising a ROM (col. 3, line 66 to col. 4, line 13) having bit lines extending in a first direction (Fig. 4, #29 illustrates the bit lines running in one direction) in a first layer (col. 6, ll. 26-47; Fig. 6, #25); and a conductive line (the word lines, MWL, col. 6, ll. 37-41; see also col. 6, ll. 20-22 which discloses that the word lines are one continuous, electrically conductive line) arranged in a second layer, located above the first layer (Fig. 9 illustrates this configuration of the conductive word lines in a layer above the bit lines), wherein the conductive line partially extends in a second direction which is orthogonal to

the first direction, to pass across the bit lines (col. 6, ll. 37-46 discloses that the bit lines are orthogonal to the word lines; see also Fig. 6 which illustrates the layers and the orthogonal directions).

Allowable Subject Matter

12. **Claims 2, 4, 5, 15, 16, 18-20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. **Claims 7, 8, and 14** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

14. **Claims 3, 7, 9-13 and 17** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: Pursuant to **claims 2 and 16**, the prior art does not disclose or suggest the conductive line of a ROM formed as a step. Pursuant to **claims 5 and 19**, the prior art does not disclose or suggest the specific limitation of a conductive line in a ROM having two ends extending respectively toward a right upper portion and a left lower portion of a ROM block. Pursuant to **claims 6 and 20**, the prior art does not disclose or suggest a ROM conductive line having two ends that both extend toward the same side of the ROM block. Pursuant to **claim 15**, the prior art does not disclose or suggest the automatic arrangement of conductive lines on a second layer in a ROM and the subsequent manual rearrangement of the conductive lines. Pursuant to **claims 4 and**

18, the prior art does not teach a ROM conductive line having two ends extending towards upper and lower portions of a ROM block.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please reference the PTO-892 for a complete listing.

- Rostoker, U.S. Patent 5,777,360, discloses a hexagonal field programmable gate array architecture. The '360 patent discloses embodiments including various layers and connections.

17. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to A.M. Thompson whose telephone number is (703) 305-7441. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 5:00 p.m.. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew S. Smith, can be reached on (703) 308-1323.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956 or the Customer Service Center whose telephone number is (703)306-3329.

18. Responses to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

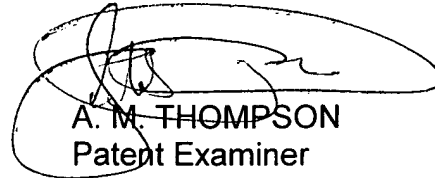
(703) 872-9318, (for **OFFICIAL** communications intended for entry)
(703) 872-9319, (for Official **AFTER-FINAL** communications)

Application/Control Number: 09/729,080

Page 8

Art Unit: 2825

Hand-delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).



A. M. THOMPSON
Patent Examiner

August 21, 2002